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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,179	10/30/2003	Thomas W. Kenny	COOL-01302	2504
28960	7590	07/20/2006	EXAMINER	
HAVERSTOCK & OWENS LLP 162 NORTH WOLFE ROAD SUNNYVALE, CA 94086			FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/698,179	KENNY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John K. Ford	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/22/06
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-127 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-127 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/15/06 + 6/26/06</u>   | 6) <input type="checkbox"/> Other: _____                                    |

Applicant's response of May 22, 2006 is acknowledged here. This application has been assigned to a new examiner. Please address all future communications to the undersigned.

The indicated allowability of certain dependent claims in the previous office action is withdrawn.

#### RESTRICTION OF INVENTION

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-87, drawn to a heat exchanger, classified in class 165, subclass 80.4.
- II. Claims 88-127, drawn to a method of manufacturing, classified in class 29, subclass ---.

The inventions are independent or distinct, each from the other because:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed could be manufactured

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by a materially different process such as one that does not involve coupling of separate layers to one another. An example of such a process would be the "lost-wax" process in which the individual channels are formed by casting them into one solid block at the time of initial forming.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

#### ELECTION OF SPECIES:

This application contains claims directed to the following patentably distinct species (applicant must select ONE species from EACH group and these elections must

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be consistent with one another such that the elected species is properly supported by the original specification). Given the large number of un-illustrate variants of the main species that follow, the examiner reserves a right, if necessary, to require a further election within whichever species applicant elects below:

#### FLUID PROVIDING SYSTEM

first species fluid providing system of Figure 2A and

second species of fluid providing system of Figure 2B

#### LIQUID PHASE

First species wherein the fluid does not change phase in the heat exchanger and

Second species wherein the fluid does change phase in the heat exchanger

#### THERMOELECTRIC SYSTEM

First species without a thermoelectric system

Second species with thermoelectric integrally formed within the heat exchanger,

Third species with the thermoelectric device integrally formed within the heat source,

Fourth species with the thermoelectric coupled to both the heat exchanger and the heat source.

## LAYERS

First species of heat exchanger having three layers and

Second species of heat exchanger having two layers

IF APPLICANT ELECTS THREE LAYERS, APPLICANT MUST ELECT ONE OF THE FOLLOWING THREE LAYER HEAT EXCHANGERS (as best the examiner can determine all of these are three layer heat exchangers):

First species of Figures 3A-3B (rectangular, as shown and first described, without a thermoelectric device)

Second species of Figures 4, 5 and 6A-6B (as shown and first described),

Third species of Figures 8A-8C,

Fourth species of Figure 9A,

Fifth species of Figure 11,

Sixth species of Figure 12A, 12D and 12H,

Seventh species of Figure 12B, 12C and 12I,

Eighth species of Figure 12A or Figure 12B heat exchanger using the Figure 12D variant,

Ninth species of Figure 12A or Figure 12B heat exchanger using the Figure 12E variant,

Tenth species of Figure 12A or Figure 12B heat exchanger using the Figure 12F variant,

Eleventh species of Figure 12A or Figure 12B heat exchanger using the Figure 12G variant,

Twelfth species of Figure 12A or Figure 12B heat exchanger using the Figure 13 variant,

Thirteenth species of Figure 12A or Figure 12B heat exchanger using the Figure 14 variant,

Fourteen species of Figure 17

IF APPLICANT ELECTS TWO LAYERS, APPLICANT MUST ELECT ONE OF THE FOLLOWING TWO LAYER HEAT EXCHANGERS (as best the examiner can determine all of these are two layer heat exchangers):

First species of Figure 7A,

Second species of Figure 7B,

Third species of Figure 9B,

Fourth species of Figures 18-20

INTERFACE LAYER (election of interface layer must be consistent with the election of a particular two-layer or three-layer heat exchanger):

First species of Figure 3B (walls 110),

Second species of Figure 10A,

Third species of Figure 10B

Fourth species of Figure 10C

Fifth species of Figure 10D,

Sixth species of Figure 10E and

Seventh species of Figure 8C

The species are independent or distinct because they are mutually exclusive and burdensome to search in the limited time allotted for examination.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, the examiner is unsure if any claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.



Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

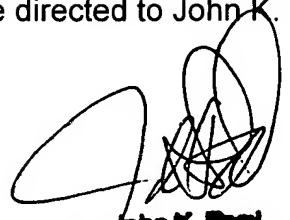
The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

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Any inquiry concerning this communication should be directed to John K. Ford at  
telephone number 571-272-4911.



**John K. Ford**  
**Primary Examiner**